

# Installation Manual

# **ENFORCER**<sup>®</sup>

## **ST-LA 105-TTQ**

## **ST-LA 110-TTQ**

# Voltage Converters



### Introduction:

The ENFORCER Voltage Converter is a low voltage step-down voltage converter. It converts low voltage AC or DC to one of three different regulated DC outputs. It is useful for CCTV DC cameras, access controls, as well as many other applications where low DC voltage is required.

### Features:

- Selectable 5, 12, or 24 VDC output via jumper.
- Built-in overload protection.
- Regulated and filtered output.
- Output current protection:
  - 0.5 Amp for ST-LA105-TTQ
  - 1.0 Amp for ST-LA110-TTQ
- Adjustable voltage output to compensate for voltage drop.
- Dual-color LED power output indicator:
  - Red indicates 5/12 VDC output.
  - Blue indicates 24 VDC output.
- Green power input LED indicator.

### Installations:

1. Remove the cover by simultaneously pressing the 2 indented slots located on the side of the cover.
2. Set the desired output voltage to 5, 12, or 24 VDC. See table 3. The factory default output setting is 12 VDC.
3. Connect the output wires from the power supply to the power input terminal blocks. See specification chart for the power requirements. Turn on the power of the power supply.
4. Use table 2 to check the LED status for the input and output voltage.
5. **To avoid potential damage, use a voltage meter to check if the voltage reading at the input and output terminal blocks is correct. Observe correct polarity.**
  - Note:** 1. Use between 16 AWG and 26 AWG wire for the input and output terminal blocks.
  - 2. Use the included **SECO-LARM** DC pigtail connector for easy installation.
6. Connect device to the power output terminal blocks.
7. If the output voltage is low, then turn the rotary knob clockwise to increase the voltage or counter-clockwise to decrease the voltage.
  - Note:** If the output voltage set by the jumper is higher than the input voltage, then the output voltage reading will be the same as that of the input voltage.
8. Replace the plastic cover on the voltage converter and secure it in the desired location.

### Specifications:

Output voltage:	5/12/24 VDC (pre-set 12 VDC), selectable by jumper	
Input voltage:	8~30 VDC/VAC for 5 VDC 15~30 VDC/VAC for 12 VDC 24~30 VDC/VAC for 24 VDC	
Output current:	ST-LA105-TTQ:	500mA@5/12/24 VDC
	ST-LA110-TTQ:	500mA@24 VDC 1A@5/12 VDC
LED indicators:	Power input LED (green) Power output LED (red for 5 or 12 VDC, blue for 24 VDC)	
Current protection:	PTC (Positive Temperature Coefficient) (500mA for ST-LA105-TTQ, 1A for ST-LA110-TTQ)	
Connector:	Terminal blocks	
Overload protection:	Built-in	
Size:	1 1/2" x 1 31/32" x 2 9/32" (46 x 50 x 23.5 mm)	

**Table 1: Adjustable voltage output chart**

Output voltage	Adjustable voltage range
5 VDC	4.5 ~ 5.6 VDC
12 VDC	12.2 ~ 13.5 VDC
24 VDC	23.0 ~ 25.2 VDC

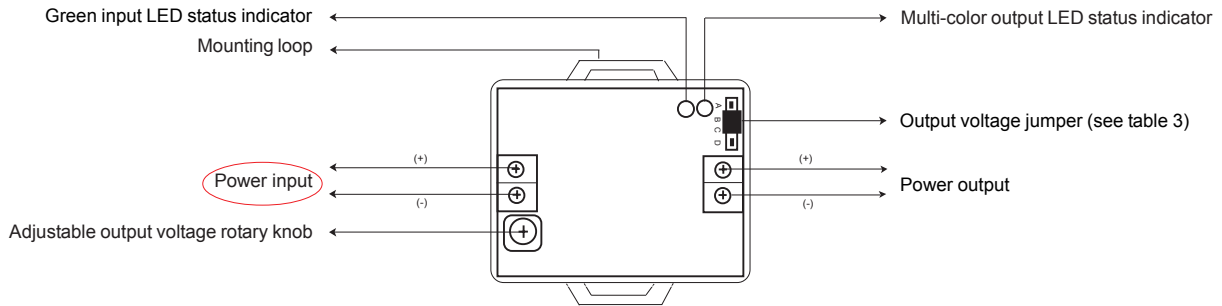
**Table 2: LED indicator chart**

LED colors	Indications
Green	Input power is connected.
Red	Output voltage is 5 or 12 VDC.
Blue	Output voltage is 24 VDC.

**Table 3: Output voltage selection chart**

Output Voltage	Jumper Setting			
	A	B	C	D
5 VDC	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
12 VDC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
24 VDC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Figure 1 - Wiring diagram**



**Troubleshooting:**

Problem	Solution
Output voltage is low.	<ul style="list-style-type: none"> <li>• Check jumper settings.</li> <li>• Check/Adjust output voltage adjustment.</li> <li>• Check input voltage - make sure it meets the input voltage requirements. (See specification chart).</li> </ul>
Green input LED not on.	<ul style="list-style-type: none"> <li>• Check input power connections with multimeter.</li> </ul>
Blue/red output LED not on.	<ul style="list-style-type: none"> <li>• Check to see whether the load exceeds the maximum limit.</li> <li>• Temporarily disconnect the power output wires and then reconnect them after 30 seconds.</li> </ul>
Output power too high.	<ul style="list-style-type: none"> <li>• Check output voltage adjustments.</li> <li>• Check output voltage jumper settings.</li> </ul>

**Products also available from SECO-LARM:**



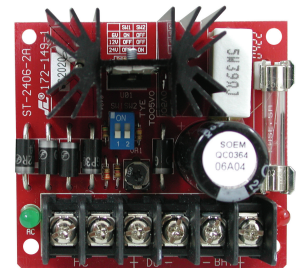
**ST-HB105-TTQ**

- Voltage booster.
- Compensates DC voltage drops over long cable runs.
- Input voltage: 7~24 VDC.
- Adjustable voltage output.
- Output voltage: 12 or 24 VDC.
- Current: 500mA@12/24 VDC.
- Multi-color LED to indicate output voltage.
- Built-in overload protection.



**EVT-PB1-L05Q**

- Passive balun with built-in power converter.
- Video, power, and data (VPD) over Cat5.
- Built-in power converter that converts 24 VAC to 12 VDC (1A).
- Built-in multi-color LED indicates power is on and polarity is correct.
- Built-in DC-plug power connector and data wire.



**ST-2406 Series**

- Power supply/charger modules.
- Converts low-voltage AC to low-voltage regulated DC.
- Choose 6, 12, 24 VDC for DC voltage.
- Adjustable voltage output.
- Available in 1.5 A, 2.5A, 4.0A, 7.0A, 9.0A for continuous supply current.
- Regulated and filtered output voltage.
- Built-in backup battery charger.

**NOTICE:** The information and specifications printed in this manual are current at the time of publication. However, the SECO-LARM policy is one of continual development and improvement. For this reason, SECO-LARM reserves the right to change specifications without notice. SECO-LARM is also not responsible for misprints or typographical errors. Copyright © 2008 SECO-LARM U.S.A., Inc. All rights reserved. This material may not be reproduced or copied, in whole or in part, without the written permission of SECO-LARM.

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